IN THE CLAIMS

Please amend the following of the claims which are pending in the present application:

1. (Original) A peptide comprising amino acid sequence of SEQ. ID No.:1 or its active fragment, for transducing a biologically active, functional or/and regulatory molecule into prokaryotic cells or eukaryotic cells.

2. (Original) The peptide comprising amino acid sequence of SEQ. ID No.:1 or its active fragment of claim 1, wherein at least any one of Arginine, Lysine and Alanine is substituted with structurally and/or functionally similar amino acid(s).

3. (Currently amended) The peptide comprising amino acid sequence of SEQ. ID No.:1 or its active fragment of claim 1 ~~or claim 2~~, wherein the biologically active functional regulatory molecule is any one of selected from the group consisting of protein, DNA, RNA, carbohydrate, lipid and chemical compound.

4. (Currently amended) The peptide comprising amino acid sequence of SEQ. ID No.:1 or its active fragment of ~~any one of claims 1 to 3~~ claim 1, wherein the peptide or its active fragment is transduced into the cells of prokaryotes or eukaryotes through administration routes comprising intramuscular,

intraperitoneal, intravein, oral, nasal, subcutaneous, intradermal, mucosal and inhaling routes.

5. (Currently amended) A recombinant expression vector comprising: DNAs encoding the peptide or its active fragment of ~~any one of claims 1 to 3~~ claim 1, DNAs encoding one or more homologous or heterologous protein as a biologically active functional regulatory molecule and operably linked expression regulatory sequence.

6. (Currently amended) A recombinant expression vector comprising: the peptide or its active fragment of ~~any one of claims 1 to 3~~ claim 1; DNA/RNA encoding DNA/RNA binding protein that binds to specific DNA/RNA sequence, or a desired DNA/RNA to be transduced into cells; DNA/RNA fragment containing one or more successive nucleic acid sequences that bind selectively to specific DNA/RNA binding protein; and operably linked expression regulatory sequence.

7. (Original) The recombinant expression vector of claim 6, wherein the expression regulatory sequence is a regulatory domain including promoter or enhancer that is specific to cell, tissue or organ where the desired DNA/RNA is transduced to and expressed selectively.

8. (Currently amended) The recombinant expression vector of ~~any one of claims 5 to 7~~ claim 5, wherein the vector is transduced into the prokaryoti cells or eukaryotic cells through administration routes comprising intramuscular, intraperitoneal, intravein, oral, nasal, subcutaneous, intradermal, mucosal and inhaling routes.

9. (Currently amended) The recombinant expression vector of ~~any one of claims 5 to 7~~ claim 5 comprising: nucleic acid sequence that is recognized and cleaved by the protease present on a cell surface; and DNA encoding ecto domain of a ligand that specifically binds to a receptor distinctively present on the surface of cell, tissue or organ to which the desired protein is transduced, or DNA encoding monoclonal antibody (mAb) that binds specifically to the receptor.

10. (Original) The recombinant expression vector of claim 9, wherein the protease specifically present on the cell surface is MMP (Matrix Matallo Protease).

11. (Currently amended) The recombinant expression vector of claim 9 ~~or claim 10~~, wherein the mAb is Fab fragment, F(ab') fragment, single strand Fv or humanized mAb.

12. (Currently amended) The recombinant expression vector of ~~any one of claims 5 to 11~~ claim 5, characterized by comprising further tag sequence for the purification of the desired protein.

13. (Original) The recombinant expression vector of claim 12, characterized by comprising further six successive histidine codons.

14. (Currently amended) The recombinant expression vector of ~~any one of claims 5 to 13~~ claim 5, characterized by comprising further amino acid sequence that is specifically recognized and cleaved by intracellular enzyme.

15. (Original) The recombinant expression vector of claim 14, wherein the amino acid sequence, which is specifically recognized and cleaved by intracellular enzyme, is Asp-Asp-Asp-Asp-Lys enterokinase cleavage site or Glu-Asn-Leu-Tyr-Phe-Gln-Gly tev cleavage site.

16. (Currently amended) The recombinant expression vector of ~~any one of claims 5 to 15~~ claim 5, characterized by comprising further one or more glycine, and spacer amino acids or nucleic acids including AYY amino acids, for the structural and functional stability or for the flexibility of the protein.

17. (Currently amended) A biomolecule transduction complex comprising: i) the peptide or its active fragment of claim 1 ~~or claim 2~~; and ii) one or more biologically active functional regulatory molecule selected from a group consisting of protein, DNA, RNA, carbohydrate, lipid and chemical compound, wherein the molecule of ii) is fused or bound to the peptide or its active fragment of i) chemically and/or physically.

18. (Currently amended) A biomolecule transduction complex formed by chemical, physical, covalent or non-covalent bond, comprising: i) the peptide or its active fragment of claim 1 ~~or claim 2~~; ii) a fusion protein between a desired heterologous or homologous protein, which relates to biological activity regulation *in vivo* or *in vitro*, and amino acids that are specifically cleaved by protease present on the surface of a cell; and iii) an ecto domain of a ligand or a monoclonal antibody that binds selectively to a receptor that is present in cell, tissue or organ to which the desired protein is transduced.

19. (Original) The biomolecule transduction complex of claim 18, wherein the protease is MMP (Matrix Metallo Protease) on the cell surface.

20. (Currently amended) The biomolecule transduction complex of claim 18 ~~or claim 19~~, wherein the mAb is Fab fragment, F(ab') fragment, single strand Fv or humanized monoclonal antibody.

21. (Currently amended) The biomolecule transduction complex of ~~any one of claims 18 to 20~~ claim 18, characterized by further comprising tag sequence for the purification of fusion protein.

22. (Original) The biomolecule transduction complex of claim 21, characterized by further comprising a gene coding 6 (six) successive histidine codons.

23. (Original) The biomolecule transduction complex of claim 21, characterized by further comprising further amino acid sequence that is specifically cleaved by an enzyme that is present in cell, organelle or nucleus, in order to remove unwanted portion from the fusion protein.

24. (Original) The biomolecule transduction complex of claim 23, wherein the amino acid sequence is Asp-Asp-Asp-Asp-Lys of enterokinase cleavage site or Glu-Asn-Leu-Tyr-Phe-Gln-Gly of tev cleavage site.

25. (Currently amended) The biomolecule transduction complex of claim 23 ~~or claim 24~~, wherein the desired protein is modified by post translational modification comprising ubiquitination, phosphorylation, farnesylation or fatty acylation.

26. (Currently amended) A fusion protein expressed in a host cell including prokaryotic or eukaryotic cell using the recombinant expression vector according to ~~any one of claims 5 to 16~~ claim 5.

27. (Original) The fusion protein of claim 26, wherein the fusion protein is Sim-2-zA1A2 or Sim-2-CTLA-4.

28. (Original) The fusion protein of claim 26, wherein the fusion protein is bound chemically and/or physically to one or more further biologically active functional regulatory molecule selected from a group of DNA/RNA, carbohydrate, lipid or chemical compound.

29. (Original) The fusion protein of claim 28, wherein the chemical and/or physical binding is direct binding through covalent or non-covalent bond, or indirect binding using mediator.

30. (Original) A method of transducing the peptide or its active fragment of claim 3 into a prokaryotic or eukaryotic cell through administration routes comprising intramascular, intraperitoneal, intravein, oral, nasal, subcutaneous, intradermal, mucosal and inhalation routes.

31. (Currently amended) A method of transducing one or more biologically active functional regulatory molecule selected from a group of protein, DNA/RNA, carbohydrate and chemical compound into a prokaryotic or eukaryotic cell, which comprises mixed culture of the tranduction complex of ~~claims 17 to 24~~ claim 17 and the cell culture medium.

32. (Currently amended) A method of transducing one or more molecule selected from a group consisting of protein, DNA/RNA, carbohydrate and chemical compound into a prokaryotic or eukaryotic cell, which comprises mixed culture of the fusion protein of ~~any one of claims 26 to 29~~ claim 26 and the cell culture medium.

33. (Original) A method of transducing a desired DNA/RNA into a prokaryotic or eukaryotic cell comprising:

i) preparing 1st recombinant expression vector comprising a desired DNA/RNA to be transduced into cells, DNA/RNA fragment having one or more successive DNA/RNA sequence to which DNA/RNA binding protein binds specifically, and operably linked expression regulatory sequence;

ii) preparing 2nd recombinant expression vector comprising a peptide of SEQ. ID No.:1 or its active fragment, DNA/RNA encoding DNA/RNA binding protein, which binds selectively to the DNA/RNA sequence to which DNA/RNA

binding protein binds specifically, including the DNA/RNA fragment in the 1st recombinant expression vector of the step i);

iii) collecting expressed fusion protein from host cells using the 2nd recombinant expression vector;

iv) obtaining a complex between the fusion protein and the desired DNA/RNA by binding the fusion protein of iii) and 1st recombinant expression vector of i); and

v) mixing the complex of iv) with the cells, to which the desired DNA/RNA is transferred, and mixed culturing the cells.

34. (Original) The method of transducing a desired DNA/RNA into a prokaryotic or eukaryotic cell, characterized by transducing the desired DNA/RNA with additional biologically active functional regulatory factor of any one of selected from a group consisting of cytokine comprising interleukin-4, interleukin-2, interleukin-12 and γ-interferon, chemokines and EGF.

35. (Currently amended) A system for producing a desired protein comprising; i) obtaining a fusion protein between the desired protein and the peptide or its active fragment of claim 1 ~~or claim 2~~ from the 1st host cell; and ii) transferring the fusion protein of i) to the 2nd host cell, and iii) isolating and purifying the desired protein, which has natural folding structure and functions, from the 2nd host cell.

36. (Original) A desired protein isolated and purified from the system of claim 35, wherein the protein has natural folding structure and functions.

37. (Original) An immnosuppressor agent comprising the fusion protein of claim 27.